

Compressive Strength of Fly Ash Mortar (M8F9525)

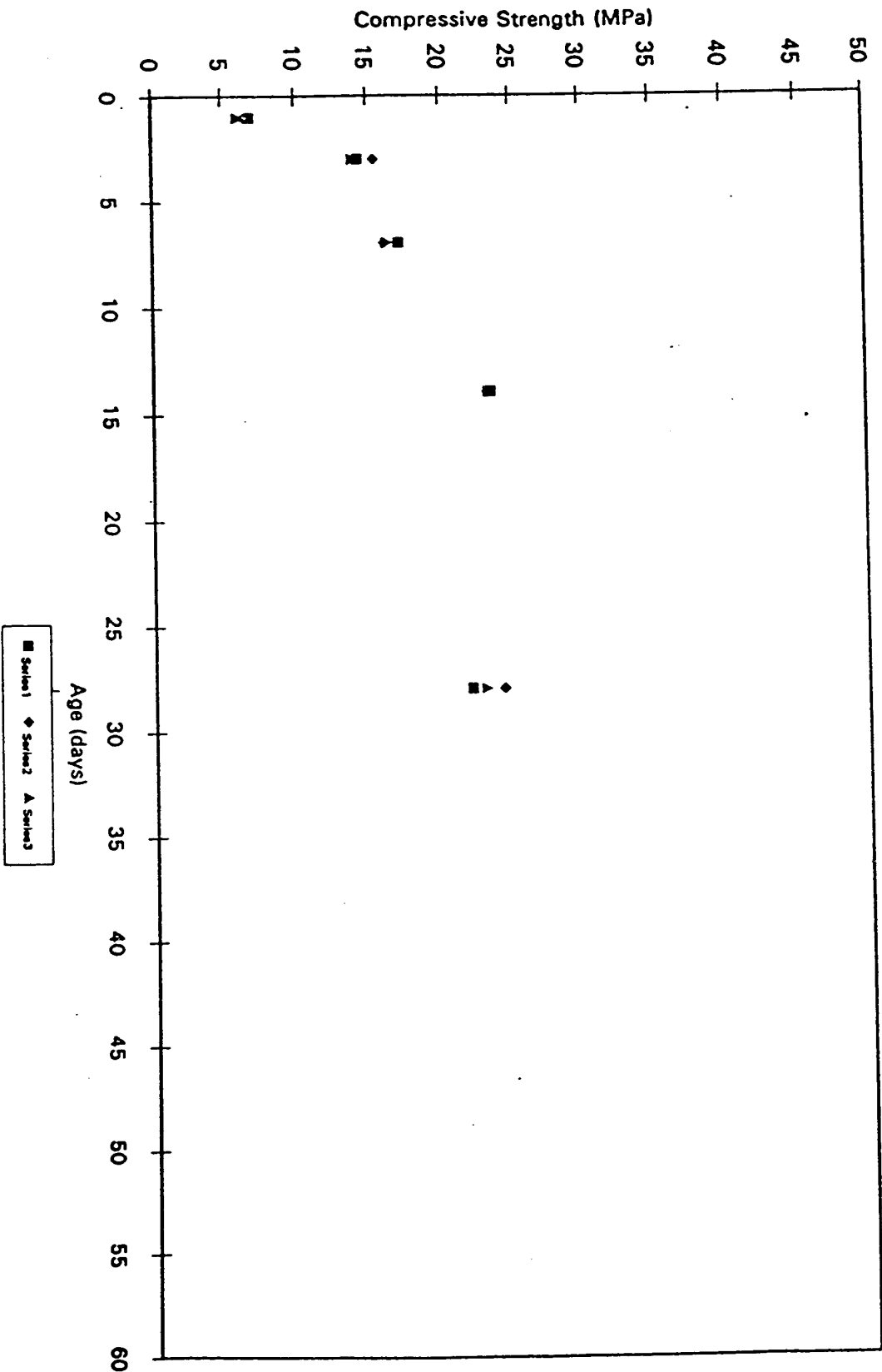


Figure 1

Compressive Strength of Fly Ash Mortar (M9F9525)

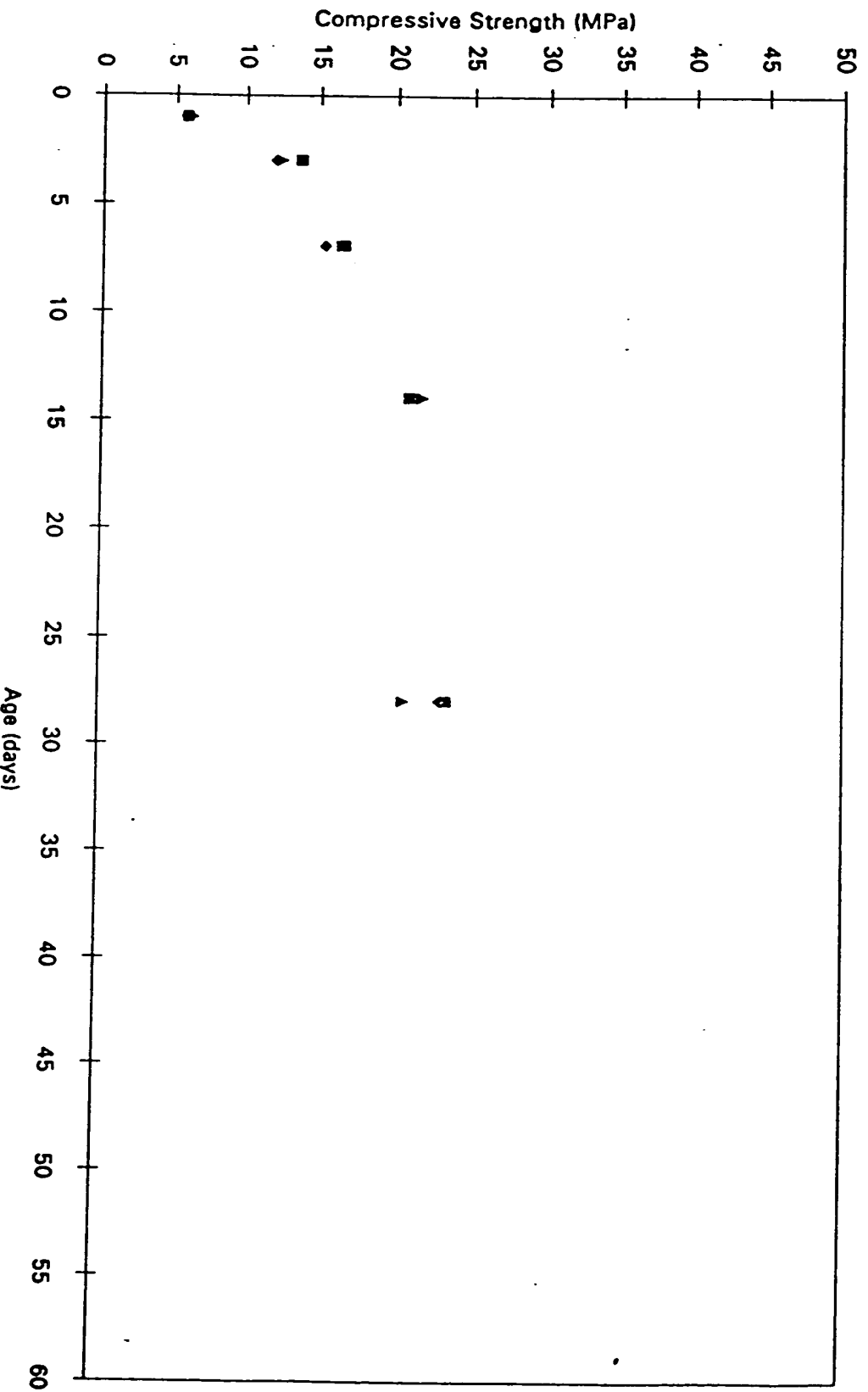


Figure 2

Compressive Strength of Fly Ash Mortar (M8F9535)

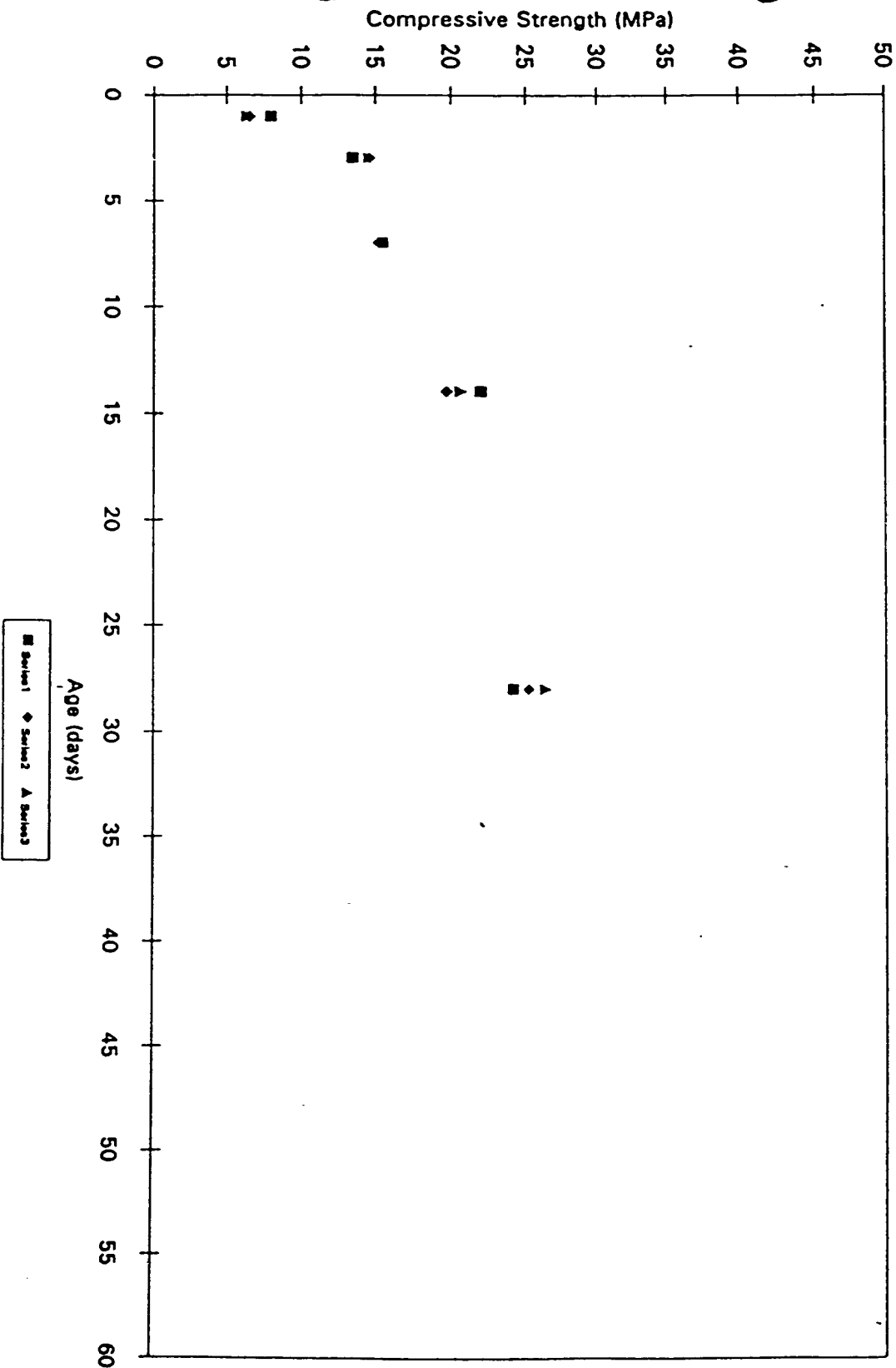


Figure 3

Compressive Strength of Fly Ash Mortar (M9F9535)

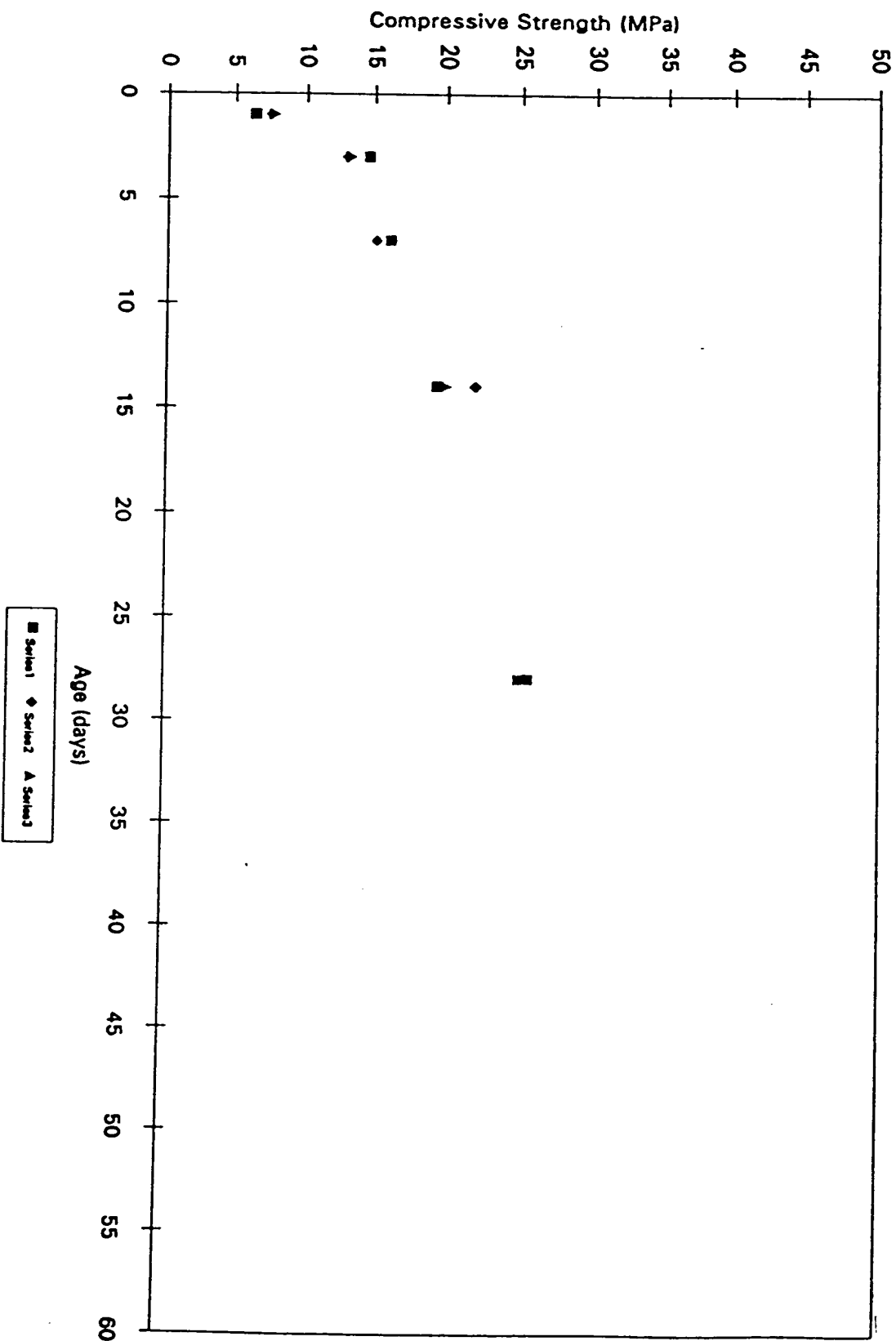


Figure 4

Compressive Strength of Fly Ash Mortar (M13N9425)

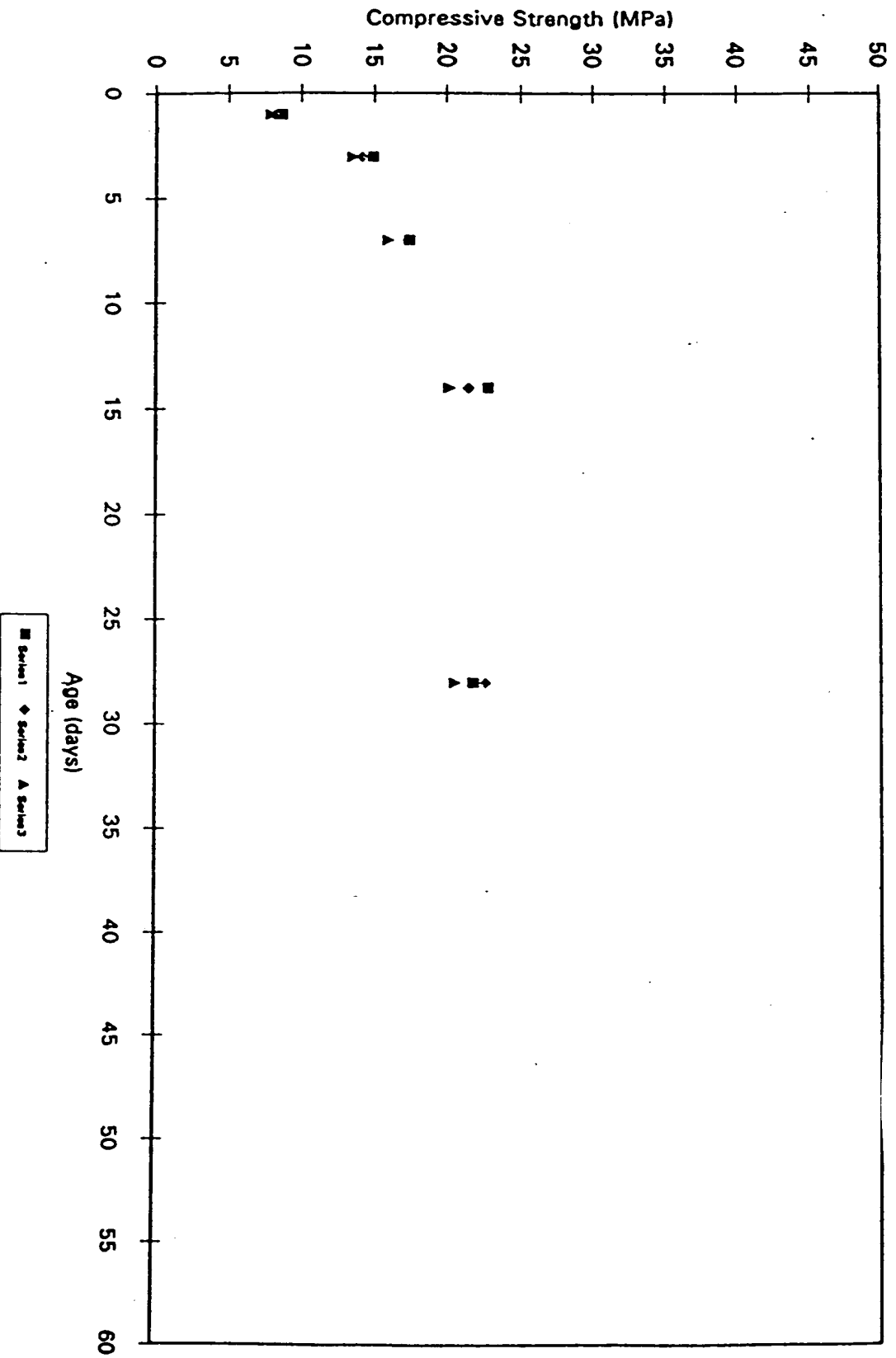


Figure 5

The Dry Grinding Process

The Attritor dry grinding process is achieved in a stationary tank by means of a rotating shaft and arms that agitate the media into a random state of motion of internal porosity called kinematic porosity. In this expanded condition, the media and particles are free to move, collide and impinge upon each other.

FIG. 6 A. KINEMATIC POROSITY

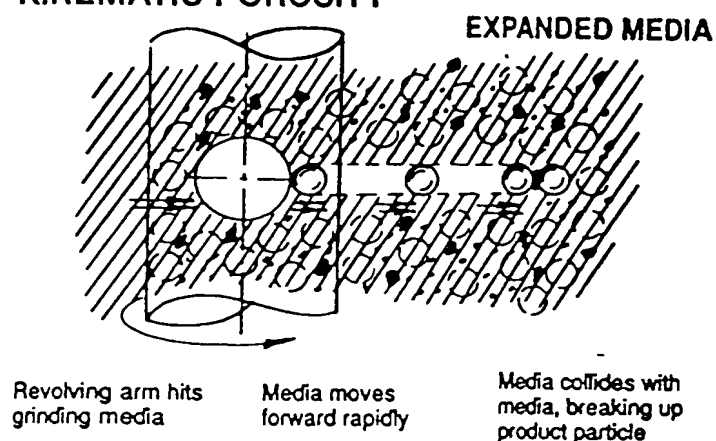


FIG. 6 B. MEDIA AT REST

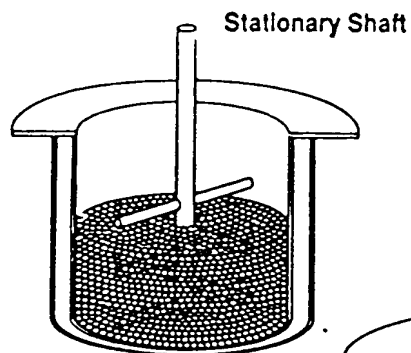


FIG. 6 C.

EXPANDED MEDIA
Rotating Shaft

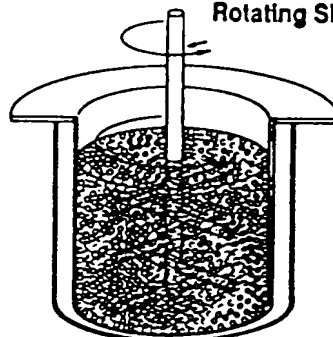


Figure 6

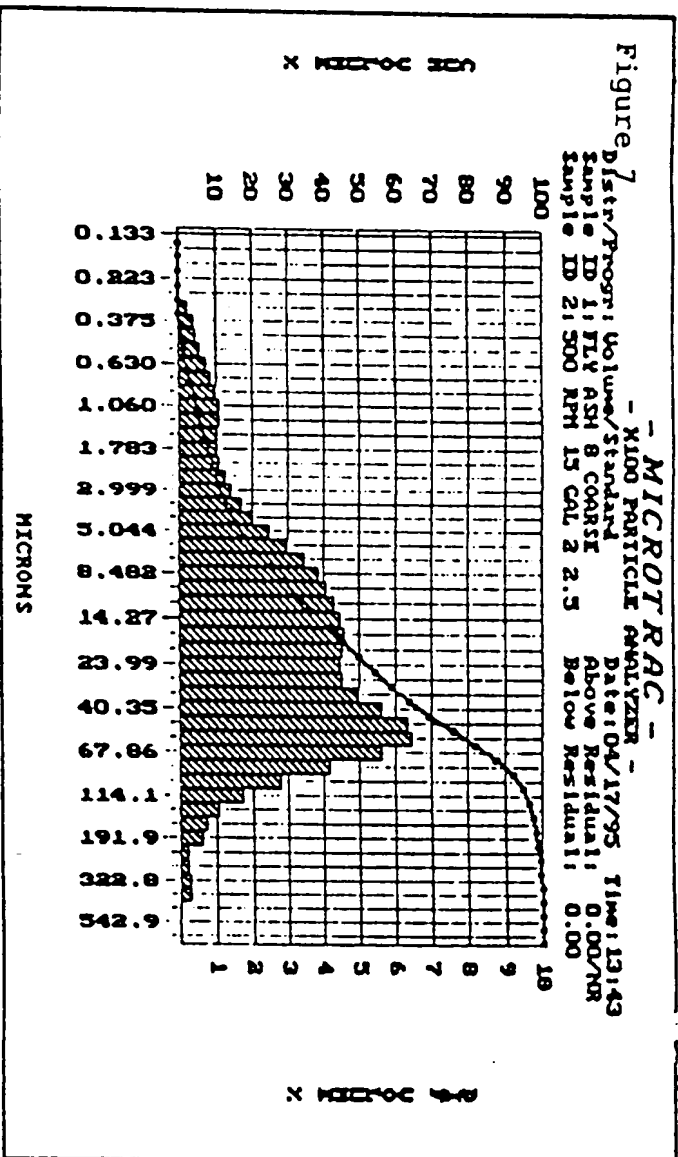


Figure 7

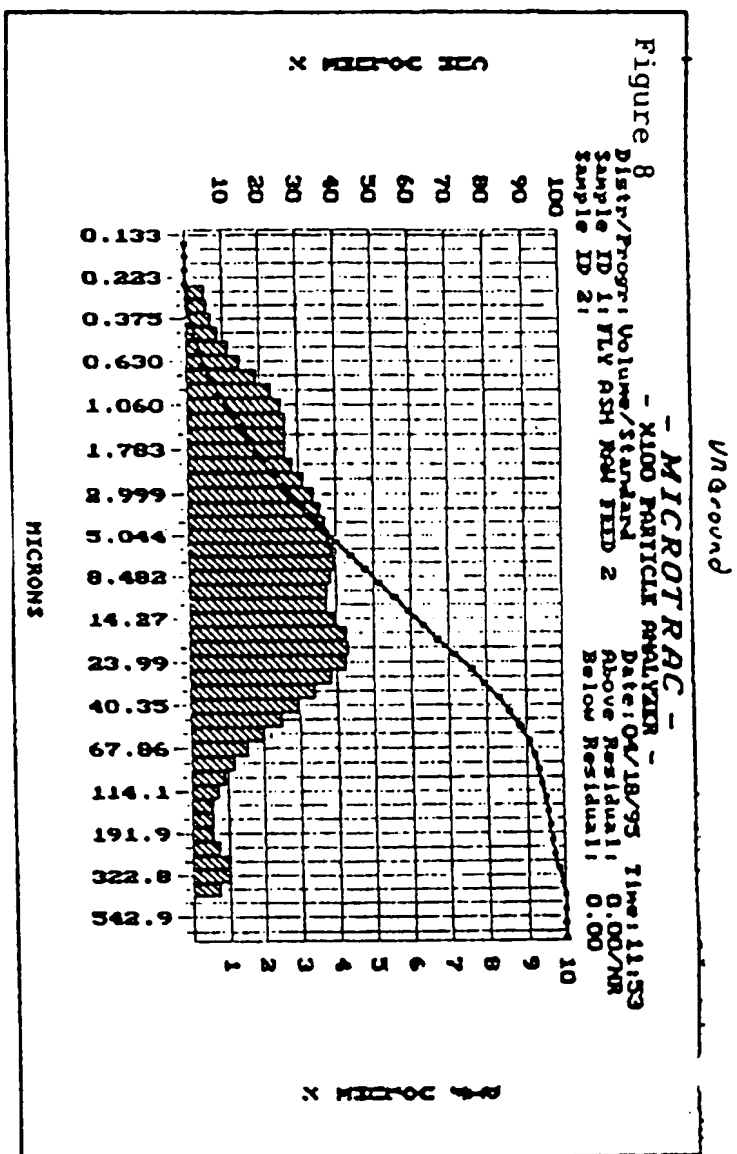


Figure 8

Compressive Strength of Fly Ash Mortar (MOG9525)

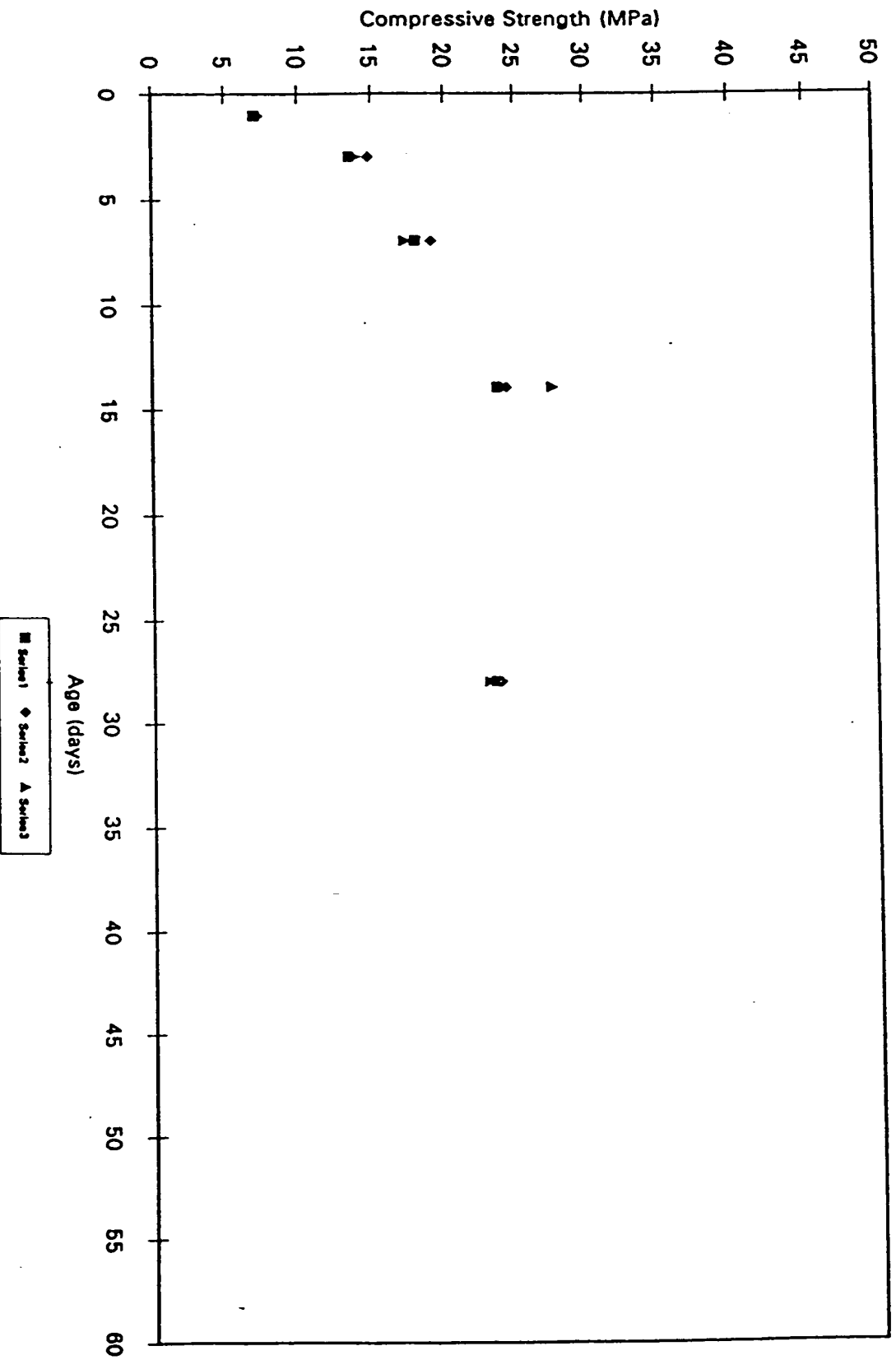


Figure 9

Compressive Strength of Fly Ash Mortar (M8CG225)

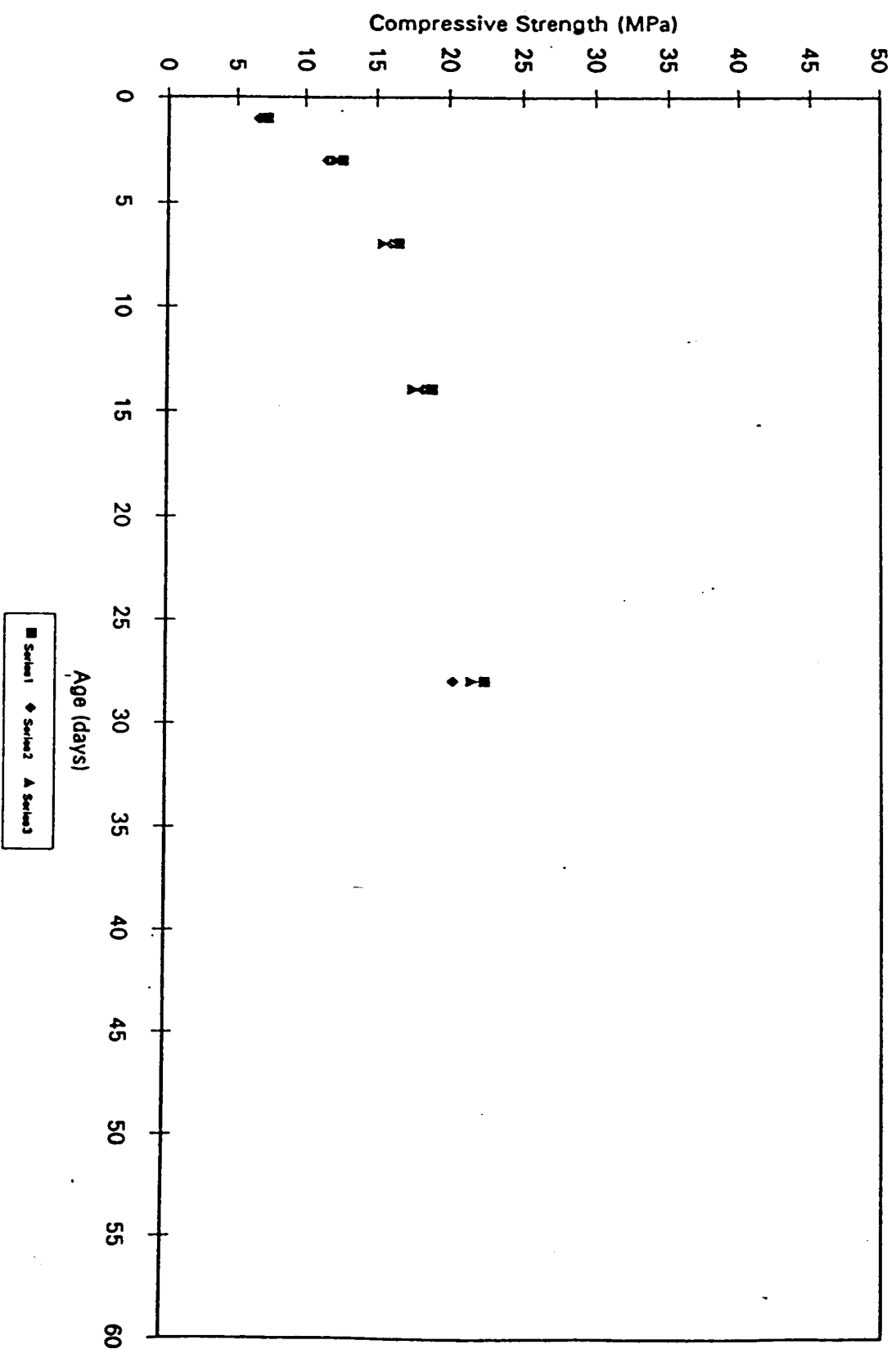


Figure 10

Compressive Strength of Fly Ash Mortar (MOG9535)

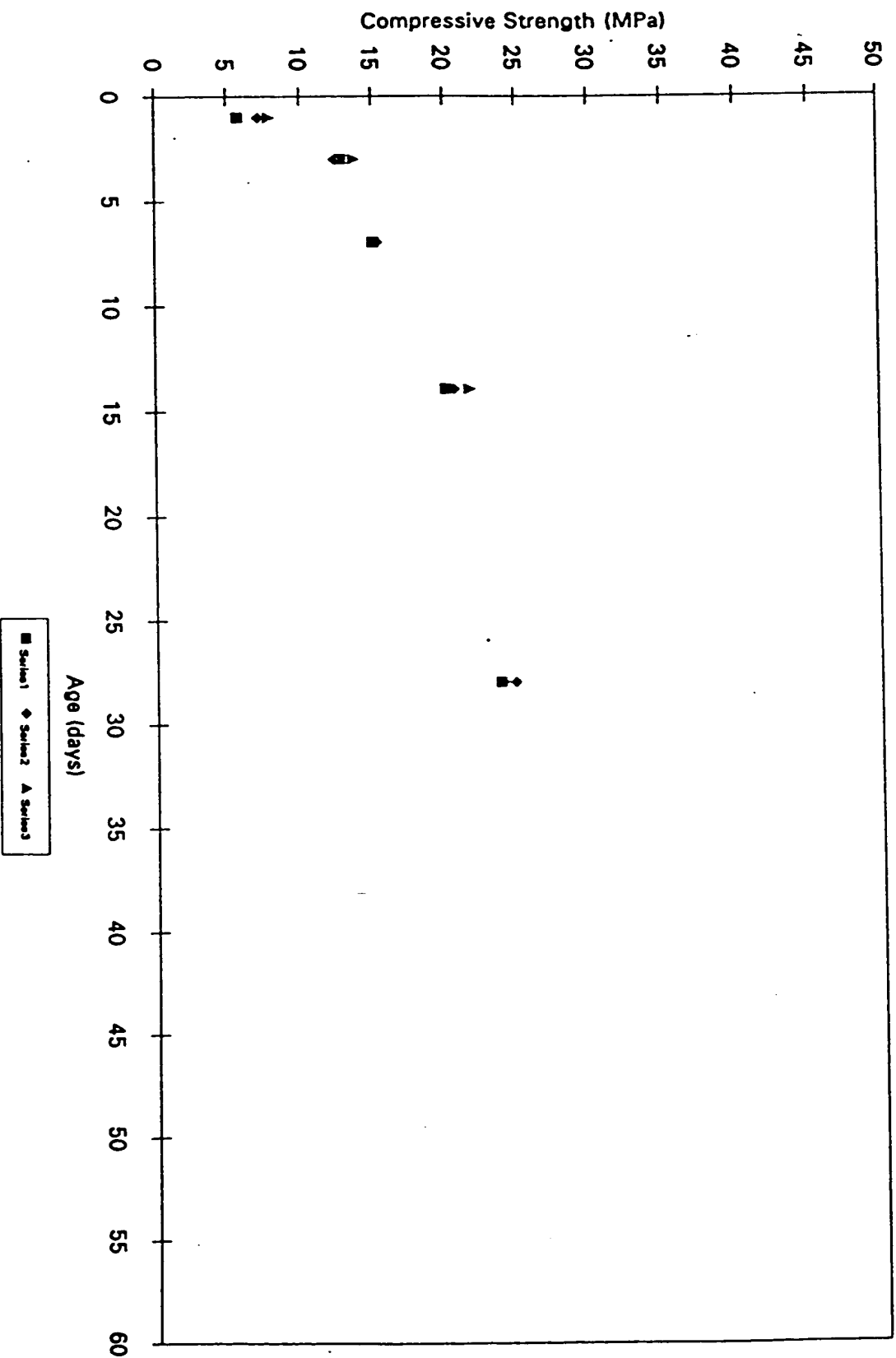


Figure 11

715-1-060 CIP (Sheet 12 of 23)
Compressive Strength of Control Mortar
(CC)

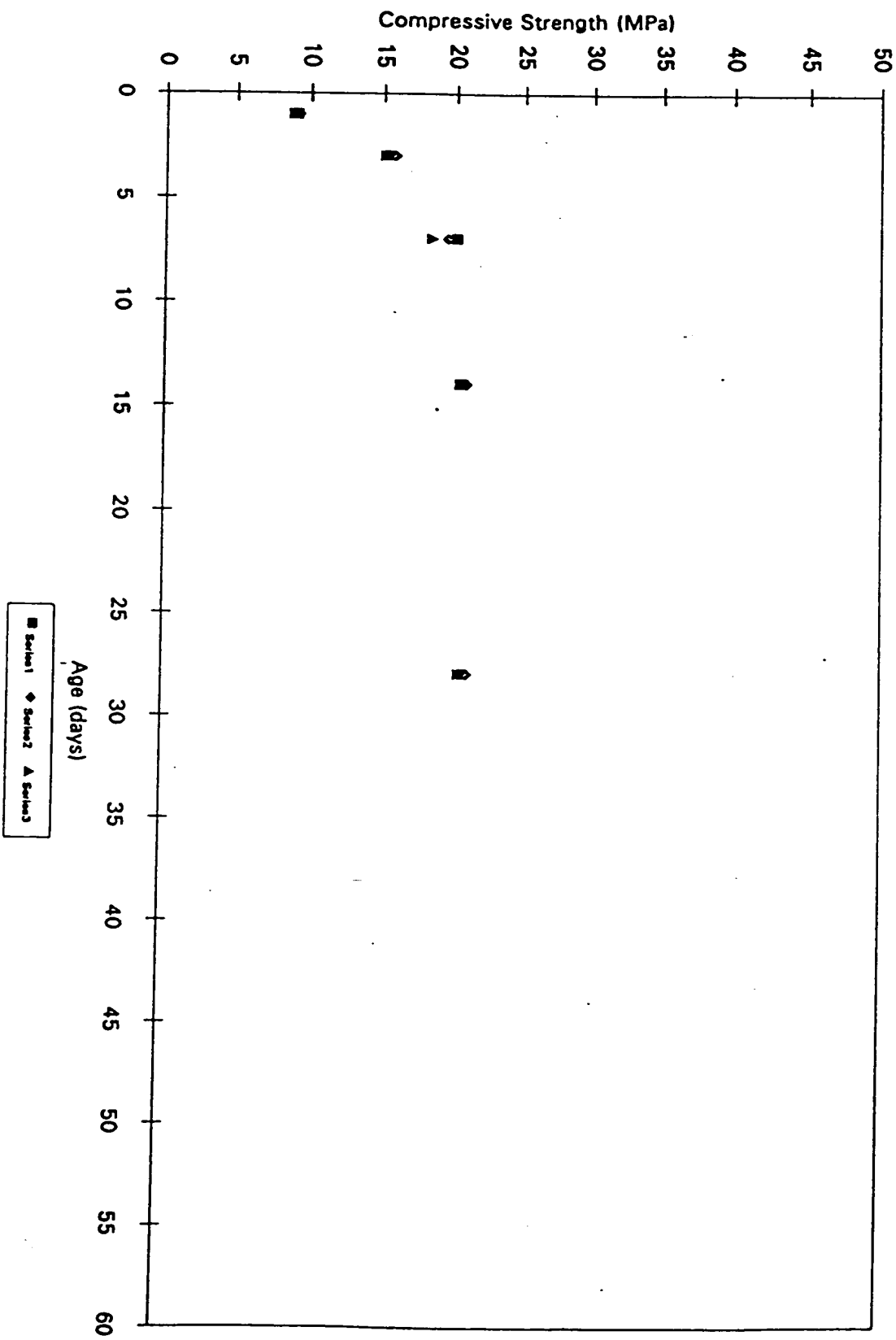
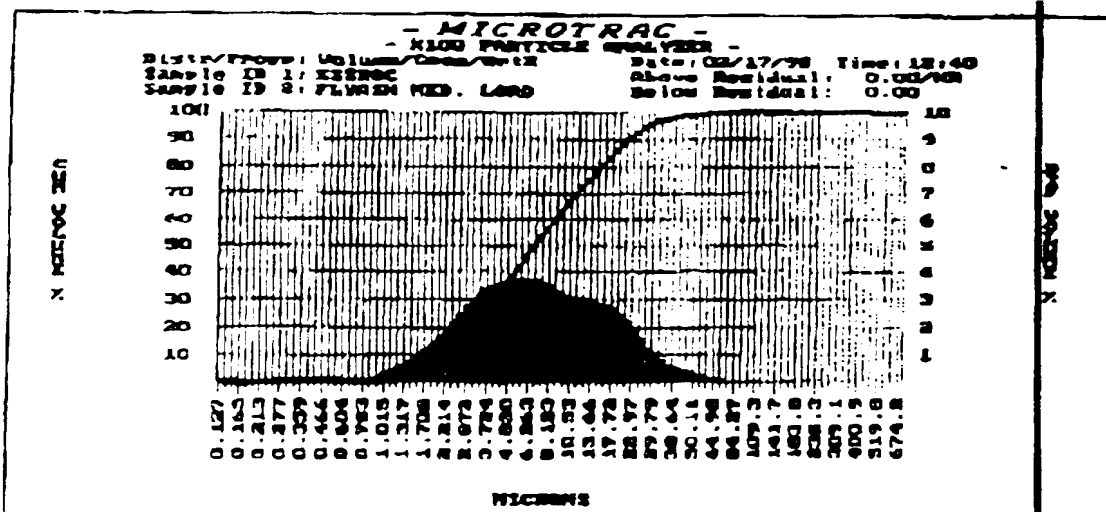


Figure 12



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Figure 13



- MICROTRAC XL10 PARTICLE ANALYZER - Percent Passing Data Version 2.0			
UNIT: 100.000 g ANALYST: J. J. J. J. FILE: 1301025-101		ASIR Parameters Flow Rate: 15 ml/sec Ultrasonic Power: 10 watts Ultrasonic Time: 100 seconds	
Meas/Pres 0: 1 - 1 Param 01: 0.000		Param 02: 0.000 Param 03: 0.000 Lot code: 00000000000000000000 Account: 100000	
ID 01: 010000 Distrib. Format: Volume Filter: ON SA Time: 60 seconds Run Number: 10000000000000000000 Transmission: Laser Int: 0.00000000000000000000 Residuals: Disabled Above Residuals: 0.00 Below Residuals: 0.00		Summary Data 01 0.00000000000000000000 02 0.00000000000000000000 03 0.00000000000000000000 04 0.00000000000000000000 05 0.00000000000000000000 06 0.00000000000000000000 07 0.00000000000000000000 08 0.00000000000000000000 09 0.00000000000000000000 10 0.00000000000000000000	
ID 02: 010000 Date: 12/17/90 Time: 17:49 Ass. Identification: 00000000000000000000 Upper Channel: 1000 Lower Channel: 1000 Number of Channels: 100 Solid Refractive Index: 1.33 Particle Transparency: 0.00000000000000000000 Spherics: 0.00000000000000000000 Part. Refractive Index: 1.00		ID 03: 010000 Date: 12/17/90 Time: 17:49 Ass. Identification: 00000000000000000000 Upper Channel: 1000 Lower Channel: 1000 Number of Channels: 100 Solid Refractive Index: 1.33 Particle Transparency: 0.00000000000000000000 Spherics: 0.00000000000000000000 Part. Refractive Index: 1.00	

Figure 14

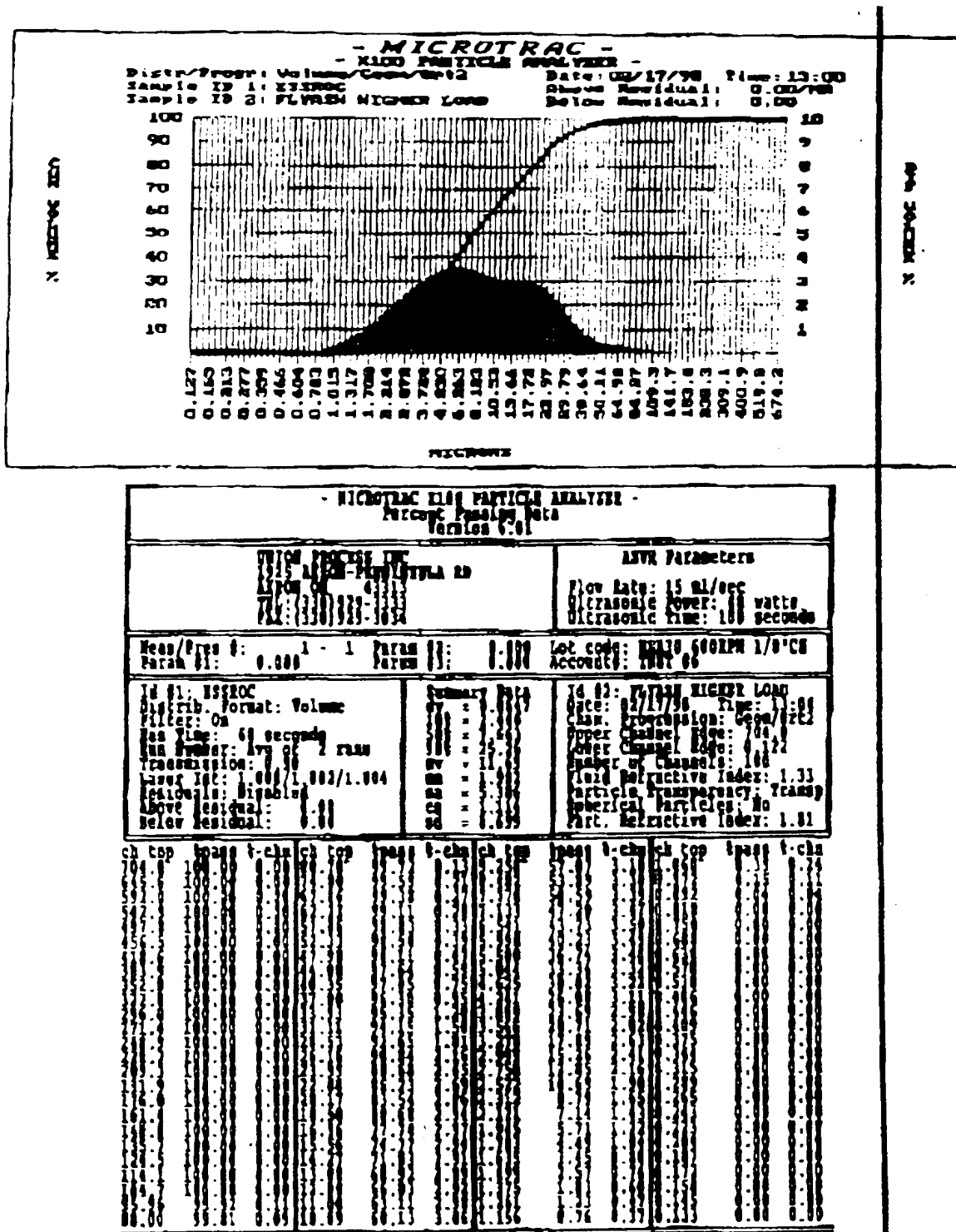


Figure 15

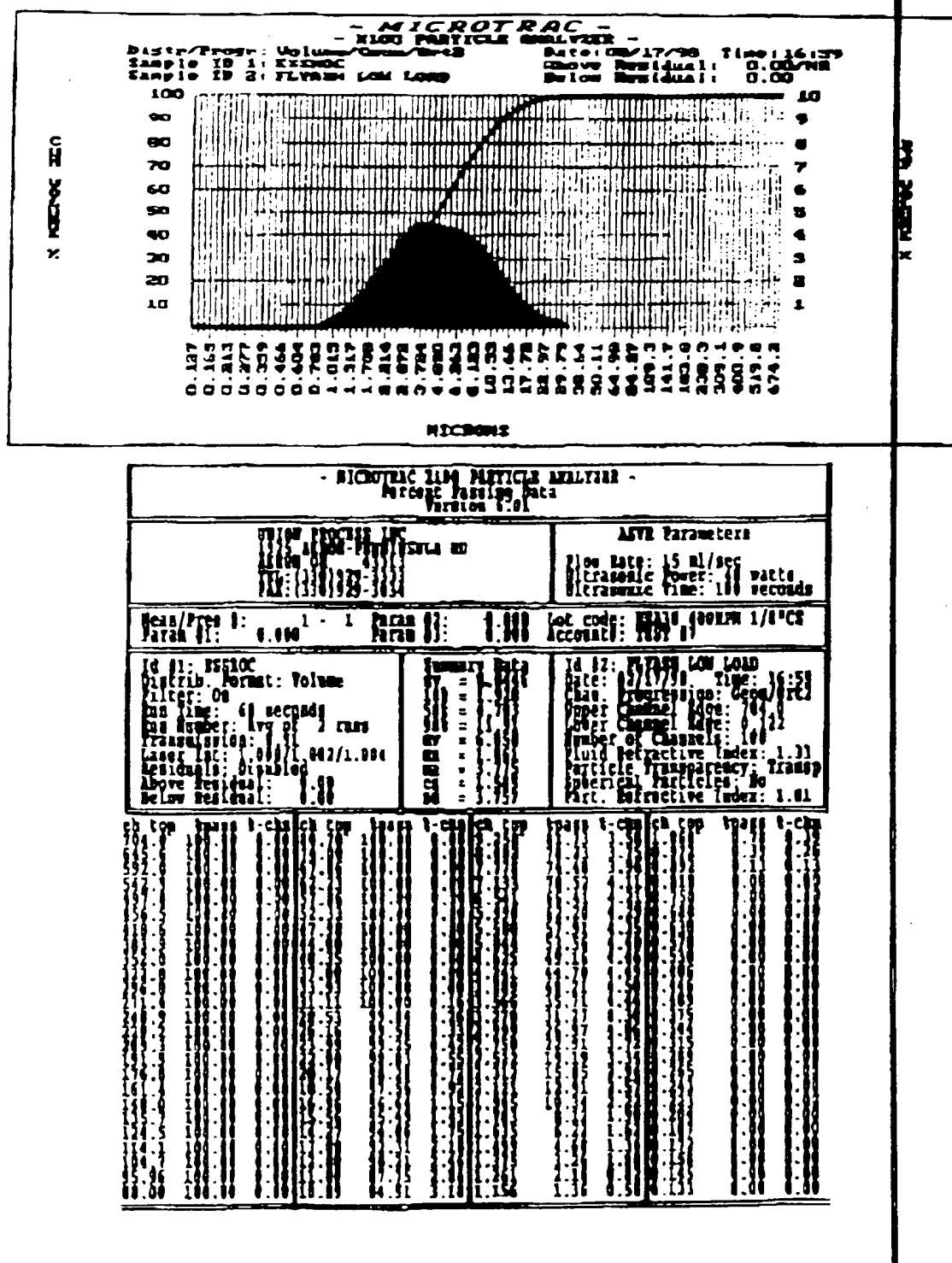
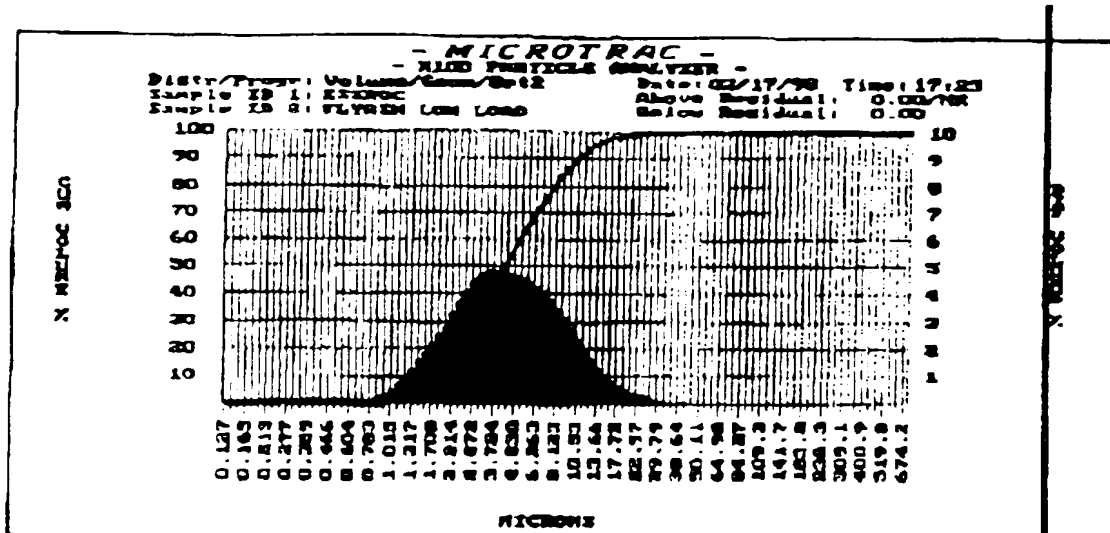


Figure 16



- MICROTRAC LID PARTICLE ANALYZER - Percent Reporting Data Version 6.01			
VELOC PROPERTIES ID: 1111111111111111 ID: 1111111111111111		ASPI Parameters Flow Rate: 15 ml/sec Ultrasonic Power: 100 watts Ultrasonic Time: 100 seconds	
Mean/Prct 1: 1 - 1 Param 1: 0.000		Param 2: 0.000 Lot code: 1111111111111111 Account: 1111111111111111	
Id 01: K2570C Distrib. Format: Volume Filter: On Run Time: 60 seconds Run Number: 1 of 1 runs Transmission: 1.000 Laser Int: 1.000/1.000/1.000 Residuals: 0.000 Above Residual: 0.00 Below Residual: 0.00		Summary Data Mean: 1.000 Std Dev: 0.000 Min: 0.000 Max: 1.000 Range: 1.000 Coef Var: 0.000 Skewness: 0.000 Kurtosis: 0.000	
Id 02: FLYASH LOW LOAD Date: 02/17/98 Time: 17:23 Run Time: 60 seconds Run Number: 1 of 1 runs Transmission: 1.000 Laser Int: 1.000/1.000/1.000 Residuals: 0.000 Above Residual: 0.00 Below Residual: 0.00		Particle Size Distribution Data Size (microns) Percent 0.127 0.00 0.165 0.00 0.213 0.00 0.277 0.00 0.355 0.00 0.445 0.00 0.550 0.00 0.673 0.00 0.815 0.00 0.977 0.00 1.159 0.00 1.363 0.00 1.590 0.00 1.843 0.00 2.123 0.00 2.432 0.00 2.773 0.00 3.148 0.00 3.560 0.00 4.012 0.00 4.507 0.00 5.048 0.00 5.638 0.00 6.280 0.00 6.978 0.00 7.735 0.00 8.555 0.00 9.442 0.00 10.399 0.00 11.430 0.00 12.539 0.00 13.730 0.00 15.007 0.00 16.375 0.00 17.838 0.00 19.399 0.00 21.063 0.00 22.830 0.00 24.699 0.00 26.670 0.00 28.743 0.00 30.919 0.00 33.198 0.00 35.580 0.00 38.065 0.00 40.654 0.00 43.347 0.00 46.144 0.00 49.045 0.00 52.050 0.00 55.160 0.00 58.374 0.00 61.692 0.00 65.114 0.00 68.641 0.00 72.273 0.00 76.009 0.00 79.850 0.00 83.796 0.00 87.846 0.00 91.999 0.00 96.255 0.00 100.614 0.00 105.077 0.00 109.644 0.00 114.314 0.00 119.087 0.00 123.963 0.00 128.941 0.00 134.021 0.00 139.202 0.00 144.484 0.00 149.867 0.00 155.351 0.00 160.935 0.00 166.619 0.00 172.403 0.00 178.286 0.00 184.268 0.00 190.349 0.00 196.529 0.00 202.807 0.00 209.183 0.00 215.657 0.00 222.229 0.00 228.900 0.00 235.669 0.00 242.535 0.00 249.498 0.00 256.558 0.00 263.714 0.00 270.966 0.00 278.314 0.00 285.758 0.00 293.297 0.00 300.931 0.00 308.660 0.00 316.484 0.00 324.403 0.00 332.417 0.00 340.525 0.00 348.727 0.00 357.023 0.00 365.413 0.00 373.897 0.00 382.475 0.00 391.147 0.00 399.913 0.00 408.773 0.00 417.727 0.00 426.775 0.00 435.917 0.00 445.153 0.00 454.483 0.00 463.907 0.00 473.425 0.00 483.037 0.00 492.743 0.00 502.543 0.00 512.437 0.00 522.425 0.00 532.507 0.00 542.683 0.00 552.953 0.00 563.317 0.00 573.775 0.00 584.327 0.00 594.973 0.00 605.713 0.00 616.547 0.00 627.475 0.00 638.497 0.00 649.613 0.00 660.823 0.00 672.127 0.00 683.525 0.00 695.017 0.00 706.603 0.00 718.283 0.00 729.957 0.00 741.725 0.00 753.587 0.00 765.543 0.00 777.593 0.00 789.737 0.00 801.975 0.00 814.307 0.00 826.733 0.00 839.253 0.00 851.867 0.00 864.575 0.00 877.377 0.00 890.273 0.00 903.263 0.00 916.347 0.00 929.525 0.00 942.797 0.00 956.163 0.00 969.623 0.00 983.177 0.00 996.825 0.00 1000.000 100.00	

Figure 17

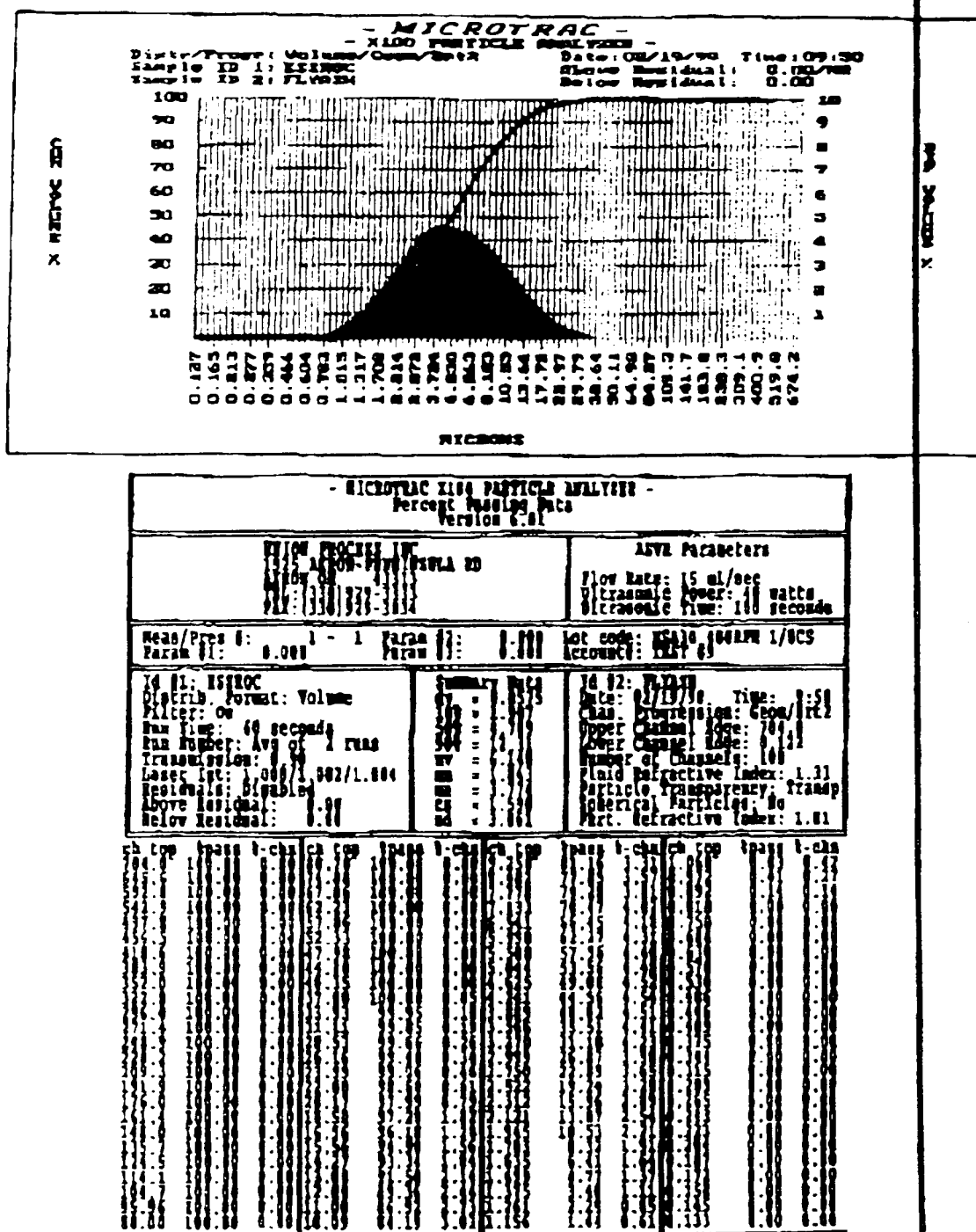
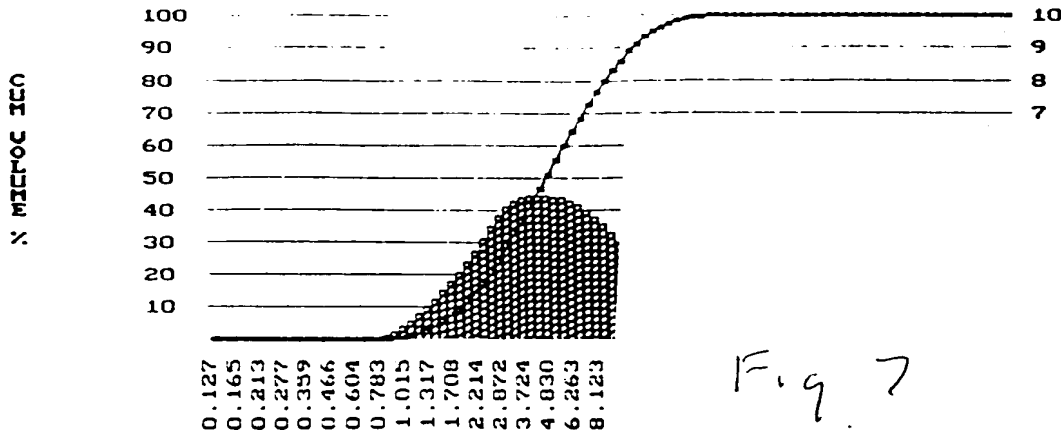


Figure 18

715-1-060 CIP (Sheet 19 of 23)

- MICROTRAC -
- X100 PARTICLE ANALYZER -

Distr/Progr: Volume / Geom/8rt2 Date: 02/19/98 Time: 10:12
Sample ID 1: ESSROC Above Residual: 0.00/NR
Sample ID 2: FLYASH Below Residual: 0.00



MICRO

- MICROTRAC X100 F Percent Pass Version	
UNION PROCESS INC 1925 AKRON-PENINSULA RD AKRON OH 44313 TEL: (330) 929-3333 FAX: (330) 929-3034	
FLOW Rate: 400 RPM Ultrasonic Power: 40 watts Ultrasonic Time: 100 seconds	
Meas/Pres #: 1 - 1 Param #1: 0.000	Param #2: 0.000 Param #3: 0.000 Lot code: HSA30 400RPM 1/8CS Account#: TEST #10
Id #1: ESSROC Distrib. Format: Volume Filter: On Run Time: 60 seconds Run Number: Avg of 2 runs Transmission: 0.33 Laser Int: 1.003/1.002/1.004 Residuals: Disabled Above Residual: 0.00 Below Residual: 0.00	Summary Data dv = 0.0393 10% = 1.969 50% = 4.912 90% = 12.55 mv = 6.301 mn = 1.873 ma = 3.899 cs = 1.539 sd = 3.965
Id #2: FLYASH Date: 02/19/98 Time: 10:12 Chan. Progression: Geom/8rt2 Upper Channel Edge: 704.0 Lower Channel Edge: 0.122 Number of Channels: 100 Fluid Refractive Index: 1.33 Particle Transparency: Transp Spherical Particles: No Part. Refractive Index: 1.81	

ch top	%pass	%chn	ch top	%pass	%chn	ch top	%pass	%chn	ch top	%pass	%chn	ch top	%pass	%chn
704.0	100.00	0.00	80.70	100.00	0.00	9.250	79.94	3.55	1.060	0.75	0.37			
645.6	100.00	0.00	74.00	100.00	0.00	8.482	76.39	3.79	0.972	0.38	0.25			
592.0	100.00	0.00	67.86	100.00	0.00	7.778	72.60	4.00	0.892	0.13	0.13			
542.9	100.00	0.00	62.23	100.00	0.00	7.133	68.60	4.17	0.818	0.00	0.00			
497.8	100.00	0.00	57.06	100.00	0.00	6.541	64.43	4.28	0.750	0.00	0.00			
456.5	100.00	0.00	52.33	100.00	0.00	5.998	60.15	4.37	0.688	0.00	0.00			
418.6	100.00	0.00	47.98	100.00	0.00	5.500	55.78	4.41	0.630	0.00	0.00			
383.9	100.00	0.00	44.00	100.00	0.00	5.044	51.37	4.45	0.578	0.00	0.00			
352.0	100.00	0.00	40.35	100.00	0.00	4.625	46.92	4.46	0.530	0.00	0.00			
322.8	100.00	0.00	37.00	100.00	0.00	4.241	42.46	4.44	0.486	0.00	0.00			
296.0	100.00	0.00	33.93	100.00	0.00	3.889	38.02	4.39	0.446	0.00	0.00			
271.4	100.00	0.00	31.11	100.00	0.17	3.566	33.63	4.28	0.409	0.00	0.00			
248.9	100.00	0.00	28.51	99.83	0.28	3.270	29.35	4.09	0.375	0.00	0.00			
228.2	100.00	0.00	26.16	99.55	0.35	2.999	25.26	3.83	0.344	0.00	0.00			
209.3	100.00	0.00	23.99	99.20	0.48	2.750	21.43	3.49	0.315	0.00	0.00			
191.9	100.00	0.00	22.00	98.72	0.65	2.522	17.94	3.12	0.289	0.00	0.00			
176.0	100.00	0.00	20.17	98.07	0.86	2.312	14.82	2.75	0.265	0.00	0.00			
161.4	100.00	0.00	18.50	97.21	1.11	2.121	12.07	2.39	0.243	0.00	0.00			
148.0	100.00	0.00	16.96	95.10	1.37	1.945	9.68	2.07	0.223	0.00	0.00			
135.7	100.00	0.00	15.56	94.73	1.67	1.783	7.61	1.78	0.204	0.00	0.00			
124.5	100.00	0.00	14.27	93.06	1.98	1.635	5.83	1.51	0.187	0.00	0.00			
114.1	100.00	0.00	13.03	91.08	2.30	1.499	4.32	1.25	0.172	0.00	0.00			
104.7	100.00	0.00	12.00	88.78	2.63	1.375	3.07	1.00	0.158	0.00	0.00			
95.96	100.00	0.00	11.00	86.15	2.95	1.261	2.07	0.77	0.145	0.00	0.00			
88.00	100.00	0.00	10.09	83.20	3.26	1.156	1.30	0.55	0.133	0.00	0.00			

Figure 19



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Figure 20

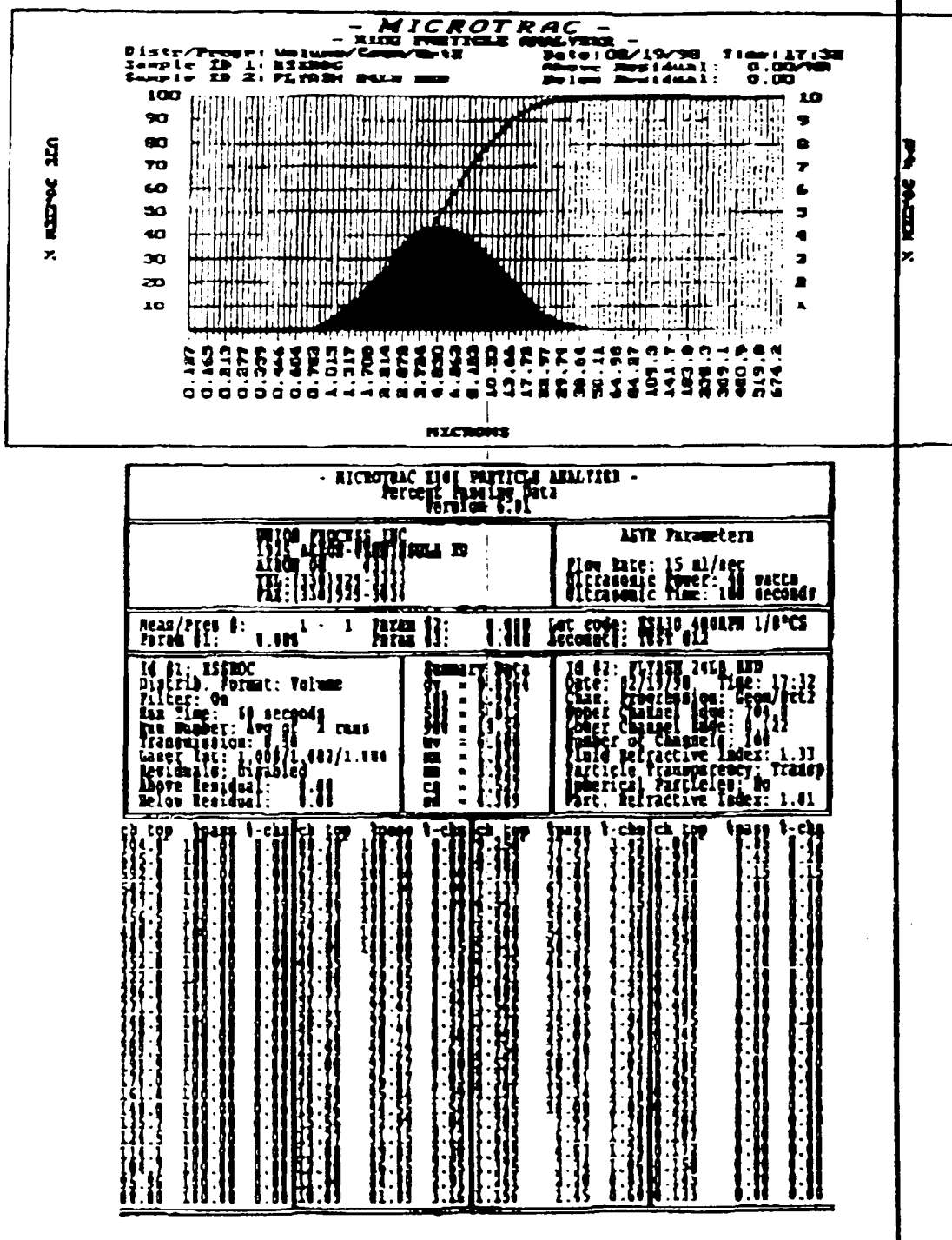


Figure 21

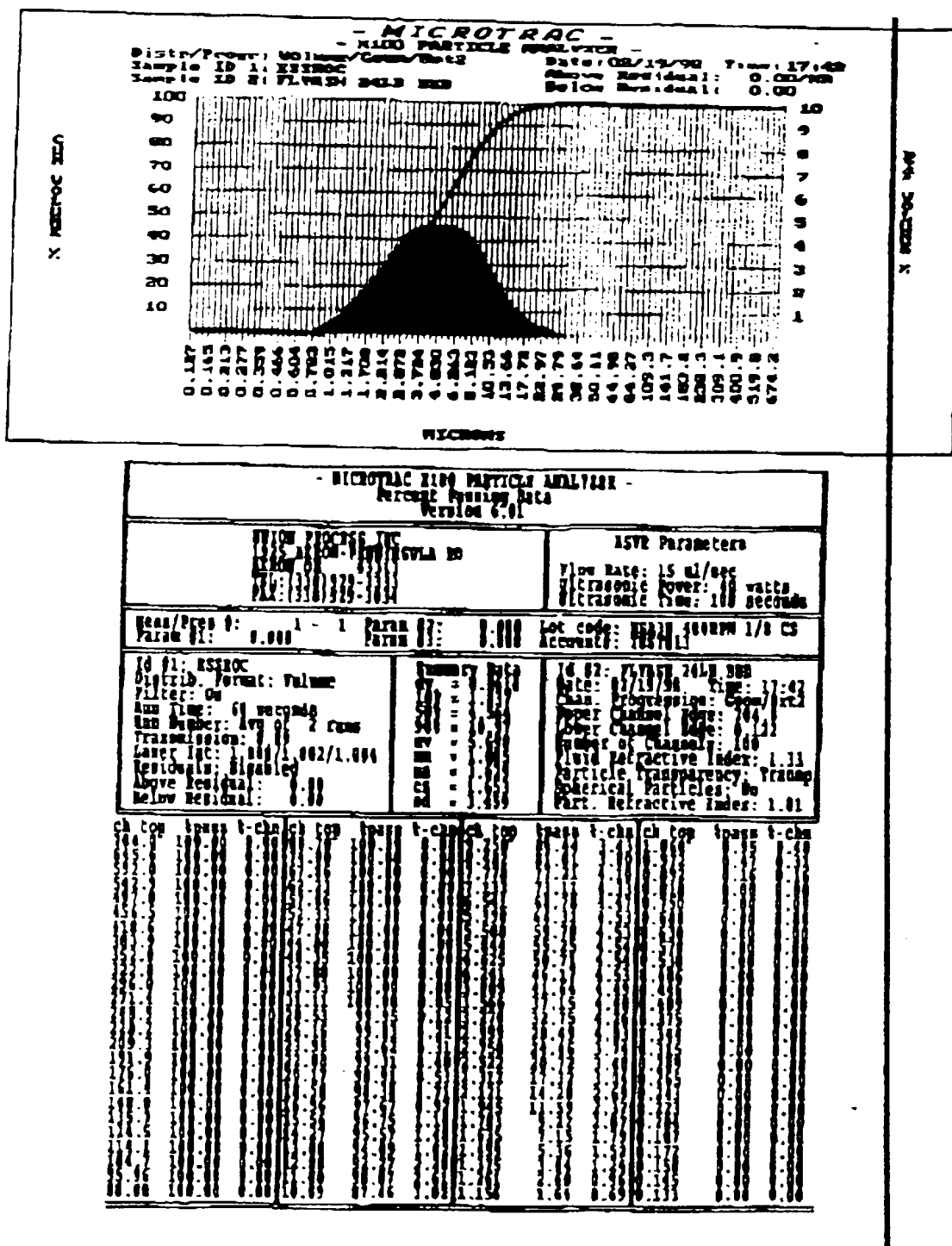


Figure 22

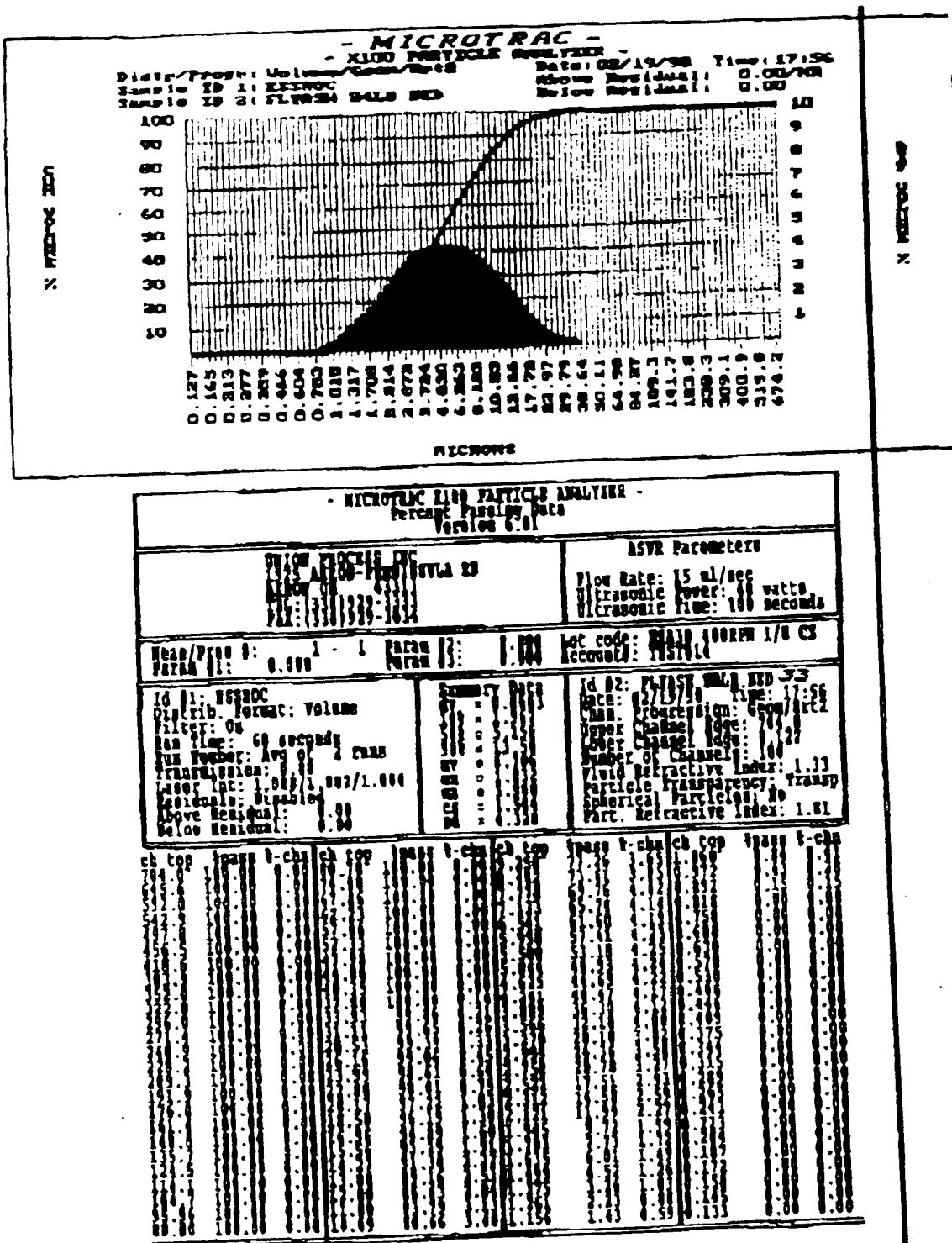


Figure 23